

**Horseweed management with fall and spring applied herbicide treatments - II**

Trial ID: NTS02-16 Study Dir.: Sprague, Powell  
 Conducted: Portland, MI Investigator: Christy Sprague

**Planting Date:** May-22-2016 **Row Spacing:** 15 IN  
**Variety:** MCIA 2308N **No. of Reps:** 4  
**Population:** 180000 S/A **% OM:** 1.8  
**Soil Type:** SL sandy loam **pH:** 5.7  
**Plot Size:** 10 X 25 FT **Study Design:** Randomized Complete Block (RCB)

**Tillage/Previous Crops:** No till corn stubble  
**Fertilizer:**

**Crop and Weed Description**

<b>Weed</b>	<b>Code</b>	<b>Common Name</b>	<b>Scientific Name</b>
1	ERICA	horseweed	Conyza canadensis
<b>Crop</b>	<b>Code</b>	<b>Common Name</b>	
1	GLXMA	Soybean	

**Application Description**

	<b>A</b>	<b>B</b>
<b>Application Timing:</b>	Fall	EPP
<b>Date Treated:</b>	Nov-3-2015	May-3-2016
<b>Time Treated:</b>	4:30 PM	12:00 PM
<b>% Cloud Cover:</b>	0	20
<b>Air Temp., Unit:</b>	71 F	64 F
<b>% Relative Humidity:</b>	43	35
<b>Wind Speed/Unit/Dir:</b>	2 mph S	11 mph SW
<b>Soil Temp, Unit:</b>	52 F	
<b>Leaf Moist/Dew Presence (Y/N):</b>	4	2
<b>Soil Moist:</b>	4	2

**Crop Stage at Each Application**

	<b>A</b>	<b>B</b>
<b>Crop 1 Name:</b>	GLXMA	GLXMA
<b>Height:</b>		
<b>Stage:</b>		

**Weed Stage at Each Application**

	<b>A</b>	<b>B</b>
<b>Weed 1 Name:</b>	ERICA	ERICA
<b>Height:</b>	4-6 " (5)	3-5 " (4)
<b>Stage:</b>	Rosett	Rosett

**Application Equipment**

Appl	Sprayer	Ground Speed	Nozzle Type	Nozzle Size	Nozzle Height	Nozzle Spacing	Boom Width	Spray Volume	Carrier	Operation Pressure
A	BACKPK	3.8 mph	AIXR	11003	20 "	20 "	100 "	19 GAL/AC	WATER	28 PSI
B	BACKPK	3.8 mph	AIXR	11003	20 "	20 "	100 "	19 GAL/AC	WATER	28 PSI

**Comments:** The horseweed at this location was ALS-resistant. Horseweed was handweeded out of the plots on July 22. The October rating was to determine if there was any extended residual from any of the treatments.

## Horseweed management with fall and spring applied herbicide treatments - II

Trial ID: NTS02-16

Location: Portland, MI

Investigator: Christy Sprague

Study Director: Sprague, Powell

Pest Code	ERICA	ERICA	ERICA	ERICA	ERICA
Rating Date	May-3-2016	May-16-2016	Jun-12-2016	Jul-22-2016	Oct-3-2016
Rating Type	control	control	control	control	control
Rating Unit	percent	percent	percent	percent	percent
Trt-Eval Interval	0 DA-B	13 DA-B	40 DA-B	80 DA-B	153 DA-B
Number of Decimals	0	0	0	0	0

Trt No.	Treatment Name	Rate Unit	Appl Code					
1	Roundup PowerMax	32 fl oz/a	A	90	90	95	66	64
1	AMS	17 lb/100 gal	A					
1	Roundup PowerMax	22 fl oz/a	B					
1	AMS	17 lb/100 gal	B					
2	2,4-D Ester	1 pt/a	A	82	87	100	91	73
2	Authority First	4.5 oz/a	B					
2	Roundup PowerMax	22 fl oz/a	B					
2	2,4-D Ester	1 pt/a	B					
2	AMS	17 lb/100 gal	B					
3	Roundup PowerMax	32 fl oz/a	A	90	90	100	98	88
3	2,4-D Ester	1 pt/a	A					
3	AMS	17 lb/100 gal	A					
3	Liberty	29 fl oz/a	B					
3	Metribuzin	6 oz/a	B					
3	AMS	17 lb/100 gal	B					
4	Roundup PowerMax	22 fl oz/a	B	0	55	100	74	33
4	AMS	17 lb/100 gal	B					
5	Sharpen	1 fl oz/a	A	64	79	100	94	75
5	MSO	1 % v/v	A					
5	AMS	17 lb/100 gal	A					
5	Spartan	6 fl oz/a	B					
5	Roundup PowerMax	22 fl oz/a	B					
5	2,4-D Ester	1 pt/a	B					
5	AMS	17 lb/100 gal	B					
6	Sharpen	2 fl oz/a	A	74	84	100	100	55
6	MSO	1 % v/v	A					
6	AMS	17 lb/100 gal	A					
6	Trivence	8 oz/a	B					
6	Roundup PowerMax	22 fl oz/a	B					
6	2,4-D Ester	1 pt/a	B					
6	AMS	17 lb/100 gal	B					
7	Sharpen	1 fl oz/a	A	90	90	100	100	75
7	Roundup PowerMax	32 fl oz/a	A					
7	MSO	1 % v/v	A					
7	AMS	17 lb/100 gal	A					
7	Metribuzin	6 oz/a	B					
7	Sharpen	1 fl oz/a	B					
7	Roundup PowerMax	22 fl oz/a	B					
7	MSO	1 % v/v	B					
7	AMS	17 lb/100 gal	B					

Missing data estimates are included in columns: Average=4

Could not calculate LSD (% mean diff) for columns 6 because error mean square = 0.

## Horseweed management with fall and spring applied herbicide treatments - II

Trial ID: NTS02-16

Location: Portland, MI

Investigator: Christy Sprague

Study Director: Sprague, Powell

Pest Code	ERICA	ERICA	ERICA	ERICA	ERICA
Rating Date	May-3-2016	May-16-2016	Jun-12-2016	Jul-22-2016	Oct-3-2016
Rating Type	control	control	control	control	control
Rating Unit	percent	percent	percent	percent	percent
Trt-Eval Interval	0 DA-B	13 DA-B	40 DA-B	80 DA-B	153 DA-B
Number of Decimals	0	0	0	0	0

Trt No.	Treatment Name	Rate Unit	Appl Code					
8	Sharpen	1 fl oz/a	A	84	88	100	100	95
8	2,4-D Ester	1 pt/a	A					
8	MSO	1 % v/v	A					
8	AMS	17 lb/100 gal	A					
8	Authority MTZ	16 oz/a	B					
8	Liberty	29 fl oz/a	B					
8	AMS	17 lb/100 gal	B					
9	Clarity	1 pt/a	A	88	90	100	100	99
9	Valor	2 oz/a	B					
9	Metribuzin	6 oz/a	B					
9	Sharpen	1 fl oz/a	B					
9	Roundup PowerMax	22 fl oz/a	B					
9	MSO	1 % v/v	B					
9	AMS	17 lb/100 gal	B					
10	Roundup PowerMax	22 fl oz/a	B		70	100	94	45
10	2,4-D Ester	1 pt/a	B					
10	AMS	17 lb/100 gal	B					
11	Valor	2.5 oz/a	B		70	100	74	70
11	Roundup PowerMax	22 fl oz/a	B					
11	2,4-D Ester	1 pt/a	B					
11	AMS	17 lb/100 gal	B					
12	Spartan	8 fl oz/a	B		69	100	88	96
12	Roundup PowerMax	22 fl oz/a	B					
12	2,4-D Ester	1 pt/a	B					
12	AMS	17 lb/100 gal	B					
13	Metribuzin	8 oz/a	B		90	100	85	98
13	Roundup PowerMax	22 fl oz/a	B					
13	2,4-D Ester	1 pt/a	B					
13	AMS	17 lb/100 gal	B					
14	Valor	2 oz/a	B		78	95	89	95
14	Metribuzin	6 oz/a	B					
14	Roundup PowerMax	22 fl oz/a	B					
14	2,4-D Ester	1 pt/a	B					
14	AMS	17 lb/100 gal	B					
15	Authority MTZ	18 oz/a	B		78	100	85	83
15	Roundup PowerMax	22 fl oz/a	B					
15	2,4-D Ester	1 pt/a	B					
15	AMS	17 lb/100 gal	B					
16	Sharpen	1 fl oz/a	B		87	100	83	60
16	Roundup PowerMax	22 fl oz/a	B					
16	MSO	1 % v/v	B					
16	AMS	17 lb/100 gal	B					

## Horseweed management with fall and spring applied herbicide treatments - II

Trial ID: NTS02-16

Location: Portland, MI

Investigator: Christy Sprague

Study Director: Sprague, Powell

Pest Code	ERICA	ERICA	ERICA	ERICA	ERICA
Rating Date	May-3-2016	May-16-2016	Jun-12-2016	Jul-22-2016	Oct-3-2016
Rating Type	control	control	control	control	control
Rating Unit	percent	percent	percent	percent	percent
Trt-Eval Interval	0 DA-B	13 DA-B	40 DA-B	80 DA-B	153 DA-B
Number of Decimals	0	0	0	0	0

Trt No.	Treatment Name	Rate	Rate Unit	Appl Code					
17	Metribuzin	6 oz/a	B		85	98	100	80	
17	Sharpen	1 fl oz/a	B						
17	Roundup PowerMax	22 fl oz/a	B						
17	MSO	1 % v/v	B						
17	AMS	17 lb/100 gal	B						
18	Metribuzin	6 oz/a	B		75	88	78	94	
18	Sharpen	1 fl oz/a	B						
18	Liberty	29 fl oz/a	B						
18	MSO	1 % v/v	B						
18	AMS	17 lb/100 gal	B						
19	Metribuzin	8 oz/a	B		85	100	90	85	
19	Liberty	29 fl oz/a	B						
19	MSO	1 % v/v	B						
19	AMS	17 lb/100 gal	B						
20	Metribuzin	6 oz/a	B		90	100	97	85	
20	Sharpen	1 fl oz/a	B						
20	Roundup PowerMax	22 fl oz/a	B						
20	2,4-D Ester	1 pt/a	B						
20	MSO	1 % v/v	B						
20	AMS	17 lb/100 gal	B						
	LSD P=.05				11.6	12.1	9.2	20.5	44.6 .
	Standard Deviation				7.9	8.6	6.5	14.5	31.5 .
	CV				10.77	10.5	6.58	16.25	40.73 .